

# Weekly Report

11/23/2015-11/29/2015

## Research

This week, I read a paper about mobility graphs[2] and make a report. In this work, authors reconstruct time-varying flow data from episodic mobility data by dividing the underlying territory into places and the time span into steps[1]. Then they develop a graph-based method combining spatial and temporal simplifications.

In order to collect performance data of our mobility pattern program(k-means algorithm), I test the program on full dataset(750,000 persons) five times for different parameter  $K(20,50,80)$ . However, k-means becomes unstable and difficult to converge when  $k$  grows.

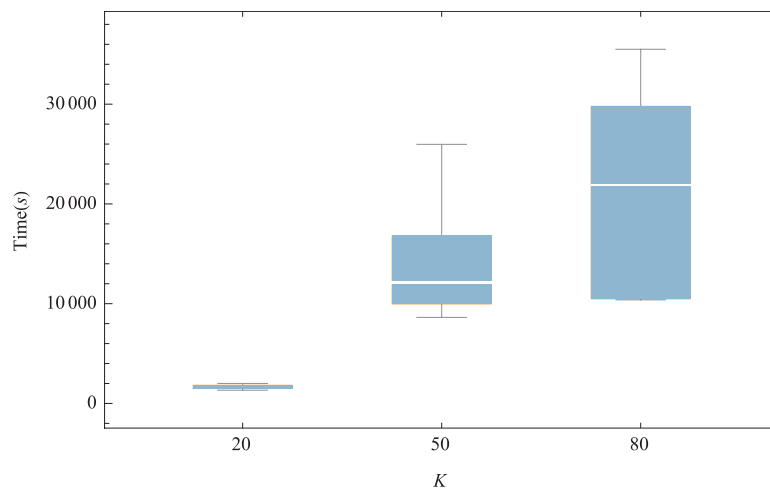


Figure 1: Performance of k-means

## Plan for next week

- Search for spatial-temporal database

## References

- [1] Natalia Adrienko and Gennady Adrienko. Spatial generalization and aggregation of massive movement data. *Visualization and Computer Graphics, IEEE Transactions on*, 17(2):205 – 219, 2011.
- [2] Tatiana von Landesberger, Felix Brodkorb, and Philipp Roskosch. *Mobilitygraphs: Visual analysis of mass mobility dynamics via spatio-temporal graphs and clustering*. 2016.